

**SAS Superstructure**

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 21-Nov-14

Time 10:42 PM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 504 Const Calendar Day: 77 Date: 20-Aug-2012 Monday

Inspector Name: Brignano, Bob Title: Transportation Engineer

Inspection Type:

Shift Hours: Break: Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

**04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge****Weather**

Temperature 7 AM 12 PM 4PM

Precipitation Condition overcast am, clear pm

Working Day ☒ If no, explain:**Diary:**

Dispute

General CommentsITEM 60 ERECT STRUCTURAL STEEL (BRIDGE)(SADDLE);
JACKING SADDLE; LOAD TRANSFER PREP FIELD WORK:

No inspection. Sometime during the day today, ABF welds lugs onto the temporary 4" shims that will be erected between the jacking posts and the jacks during the jacking steps at the jacking saddle. During last week's first permanent shim erection, ironworkers bolted on erection lugs using the holes in the temporary shims that are also used to bolt the temporary shims onto the previously erected temporary shims. ABF discovered that using the same bolt holes for lugs and for bolting the temporary shim to other temporary shims made the work more complicated and take more time. ABF decided to weld lugs onto the temporary shims, and last week did some prep work by grinding off paint from the temporary shims at the locations where the lugs will be welded. Today's welding of lugs onto the temporary shims was not inspected by me, but was likely done by ironworker Jacob Stafford or ironworker Richard Chouinard for approximately half a day with a welding machine located on the deck.

ITEM 60 ERECT STRUCTURAL STEEL (BRIDGE)(SADDLE);
JACKING SADDLE; LOAD TRANSFER PREP ISSUES:

The following issues were discussed with ABF engineer Levis Gatsos this morning after last week's jacking operations to install the first permanent shim:

>The gantry rods supporting the jacking saddle/frame are out of plumb by 1 to 2 degrees with the gantry out too far. After the second of three strokes for installing the first permanent shim last week, the rods were about 1 degree out of plumb. Then during the third of three strokes, ABF thought that the movement of the gantry out during the jacking operation would catch up and fix the problem with the rods being out of plumb, but instead, the error was increased/accumulated and the work ended with the rods being out of plumb by 1 to 2 degrees. Levi wants this fixed prior to jacking for the second shim so that we stop accumulating errors - Levi will add this to a punchlist for the ironworkers to fix in the next week. He anticipates dialing in the gantry movement to keep the rods plumb for erection of future permanent shims. This will be monitored and corrected as necessary in the future.

>The angle of the jacking saddle/frame is flatter than it started. This is noticeable with the upper jacking posts at both the north and south sides having 1/4" less temporary shimming between jacking posts and the jacks. Also, the angle of the jacking frame legs, as measured with a smart level, is approximately 0.1 degree flatter. Since the jacking saddle/frame is bearing on the first permanent shim now, this may be due to shim flatness issues. However, Levi and I also discuss that the gantry rods may have too much tension



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and are holding up the saddle/frame too much, despite the saddle/frame bearing on the permanent shims. For the installation of the second permanent shim, Levi plans to keep less tension in the gantry rods as the gantry is moved out and the rods are released down by the gantry rod jacks. Levi anticipates dialing in the gantry rod tension to keep the jacking saddle/frame at the correct angle during erection of future permanent shims.

>During last week's jacking operations to install the first permanent shim, when Levi and I at the jack gauges, we did not always know exactly how much gap for the shims had been created. Note that we also checked work inside W2 at the jacks and shims during the operation, but the communication between the operations at the different parts of the jacking saddle temporary support components was not always perfectly coordinated. The ironworkers at the jacks called out half inch stroke movements on the jacks so that the gantry could be moved out to keep the gantry rods plumb, but they did not always call out the time when liftoff was achieved and measure the gap at the permanent shim location (but they did call out jack stroke movements, which are different at all 4 jacking posts due to differences in initial gaps). For jacking operations for installation of the future permanent shims, Levi will tell the ironworkers at the permanent shims to call out liftoff so that the gauge pressure can be documented. Levi will also tell the ironworkers to measure all 4 corners at the permanent shim location after the jacking stroke is complete to accurately get a dimension for the jacking amount, verify the permanent shim fits in the gap, and verify that the jacking saddle/frame is coming out straight (not at an angle up, down, left, or right).

>Permanent shim bolting: After installation of the first permanent shim, ABF superintendents (Jerry Kent, Scott Smith) only wanted to fully tension the bolts (by turn of the nut) on one side of the shim where the bolts/shim are final, but they did not want or plan to fully tension the bolts on the other side of the shim on the where the next jacking operation will be followed by the installation of a new permanent shim. I requested full tensioning of the bolts on this other side of the permanent shim, because the plans/specs and approved submittal call for full tensioning of all the bolts on the permanent shims after they are installed in each jacking/shimming step, and also because at that time, it appeared that it will be several weeks before the next jacking operation meaning it is best to lock down everything for the extended length of time. Levi agreed and the ironworkers doing the work tightened all the bolts. Levi and I discuss today what will happen during installation of the future shims, where sometimes there will not be much time before the next jacking operation for the next shim installation, meaning there will be more pressure to not fully tension the bolts on one side of the permanent shim. Levi will tell the ironworkers that they need to fully tension all the bolts between shim installations (between steps), regardless of the amount of time to the next shim installation. Since once face with 4 bolts has to be tensioned, the ironworkers will have already done the time consuming part by getting the equipment to the area and tensioning the other 4 bolts on the other face is not that much more work. ABF's superintendents did not want fully tensioned these bolts because they will just have to be loosened for the next jacking operation. Levi and I discuss that the ironworkers can loosen the bolts on one side of the shim just prior to jacking.

ITEM 60 ERECT STRUCTURAL STEEL (BRIDGE)(SADDLE); EAST SADDLE; LOAD TRANSFER PREP ISSUES:

The following issues were discussed with ABF engineer Levis Gatsos this morning regarding necessary East Saddle work prior to load transfer:

>Fixing the CCO 240 blocking at 2 spots at the east saddle (1 at north saddle and 1 at south saddle) was on Levi's punchlist, but I tell him that this work was adequately completed a week ago on Saturday 8/11/2012 by ABF's laborers. No more work is necessary on this item.

>Last week I discussed with ABF engineer Scott Yeager that there was some debris at the east saddle that needs to be removed prior to continuing with load transfer - he referred me to Levi for this issue. During PWS installation at the east saddles (north and south), debris occasionally slid under the strand and lodged between the strand and the saddle on the lower surface of the saddle trough where the strand exits to the mainspan with the cable temporarily high before movement of the cable during load transfer. Any debris in this area will be crushed during load transfer when the cable moves down, with the concern being

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that this debris will be permanent lodged in this location and potentially be a stress riser on the PWS wires. During PWS installation at the east saddles (north and south), the area was cleaned a few times and tape was used to seal/barricade the area to prevent debris from accumulating in this spot. During my inspection of the area last week, I noticed that the tape seal/barricade had deteriorated and there was some debris in this area, particularly at the north saddle where a mechanical pencil had slid into this area. Levi said that cleaning and sealing this area will be added to a punchlist for the laborers to address prior to load transfer.

>During the April 2012 installation of the splay plate at the east saddles, ABF did not have jam nuts (half height nuts) for the 2" diameter A449 bolts. Sometime after the splay plate installation, ABF added jam nuts. I noticed last week that the jam nuts had been added and were not tight - the jam nuts can be removed by hand. I tell Levi that these jam nuts need to be hit with a knocker wrench or pipe wrench - they need to be more than hand tight. Levi will add this to the punchlist for the ironworkers to complete before load transfer.

>The east saddles splay plate galvanized jam nuts (half height nuts) for the 2" diameter A449 bolts that were installed recently were not tested and released as far as I knew when discussing this issue with Levi early in the morning. I asked Levi for material test/cert documentation and where additional pieces are located for METS sampling for Translab QA testing. After some investigation, Levi informs me later in the morning that these jam nuts are extra material from the anchor rods for the west deviation saddles. ABF ordered too many galvanized jam nuts (half height nuts) for those anchor rods and used the extra material for the east saddle splay plate bolts. This material has been previously sampled, tested, and released, meaning that this material is acceptable to use at this location. There is no outstanding work on this issue as a result of the new info on the source of this material.